



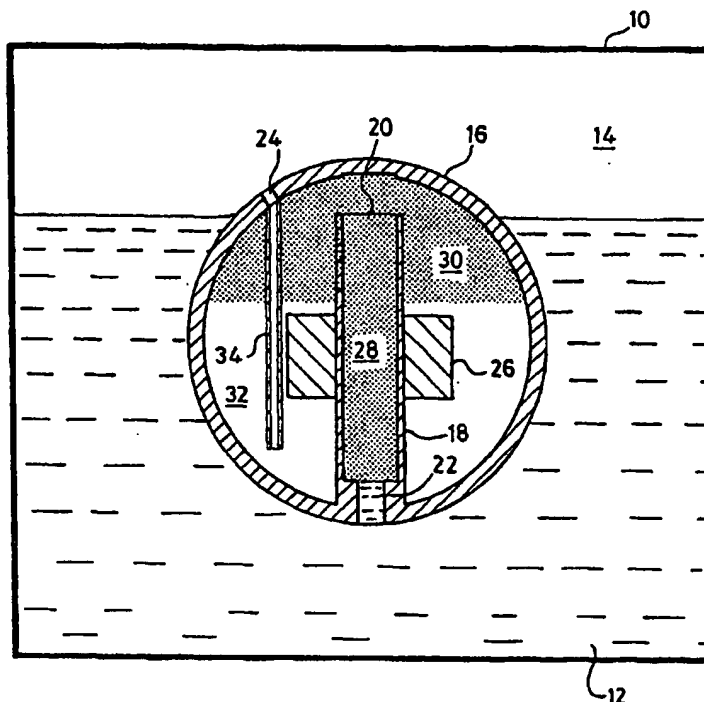
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : B65D 79/00, B65B 31/02	A3	(11) International Publication Number: WO 95/03982 (43) International Publication Date: 9 February 1995 (09.02.95)
(21) International Application Number: PCT/GB94/01658 (22) International Filing Date: 1 August 1994 (01.08.94) (30) Priority Data: 9315830.1 30 July 1993 (30.07.93) GB (71) Applicant (for all designated States except US): PA CONSULTING SERVICES LIMITED [GB/GB]; 123 Buckingham Palace Road, London SW1W 9SR (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): HOUZEGO, Peter, John [GB/GB]; 8 The Drift, Oakington, Cambridge CB4 5AD (GB). WOOD, Timothy, Michael [GB/GB]; 6 The Lawns, Melbourn, Royston, Hertfordshire SG8 6BA (GB). COX, Peter, Erich [GB/GB]; 1 March Lane, Cherry Hinton, Cambridge CB1 3LF (GB). (74) Agent: NASH, Keith, Wilfrid; Keith W. Nash & Co., Pearl Assurance House, 90-92 Regent Street, Cambridge CB2 1DP (GB).	(81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments. (88) Date of publication of the international search report: 30 March 1995 (30.03.95)	

(54) Title: DEVICE FOR PRODUCING A HEAD ON A BEVERAGE

(57) Abstract

A device for generating a head on a liquid in a sealed and pressurized can, when the can is opened, comprising a hollow capsule (16) which initially floats on the liquid so that apertures (22, 24) in the capsule are initially disposed one above and one below the liquid level surface, liquid being drawn up into the container through the immersed aperture by an absorbent wick (28, 30) combining with ballast means (26) eventually to cause the capsule to at least partially invert and trap gas under pressure within the capsule, ready for release when the can is opened to issue through a small aperture as a fine jet into the liquid and bubble to the liquid surface.



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GA	Gabon				

INTERNATIONAL SEARCH REPORT

Internat Application No

PCT/GB 94/01658

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 B65D79/00 B65B31/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B65D B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO,A,91 07326 (WHITBREAD & COMPANY PLC) 30 May 1991 see abstract see page 15, line 6 - line 8; figure 2 ---	1,5,22
A	EP,A,0 227 213 (ARTHUR GUINNESS SON & COMPANY (DUBLIN) LIMITED) 1 July 1987 ---	
A	EP,A,0 448 200 (GUINNESS WORLDWIDE BREWING LIMITED) 25 September 1991 ---	
A	GB,A,2 086 834 (ABBOTT LABORATORIES) 19 May 1982 see abstract; figures 1,3 see page 3, line 100 - line 103 --- -/--	26

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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- *O* document referring to an oral disclosure, use, exhibition or other means
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- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

24 February 1995

Date of mailing of the international search report

28. 02. 95

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 94/01658

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US,A,3 449 134 (LEASURE ET AL) 10 June 1969 see column 2, line 6 - line 39 -----	26

INTERNATIONAL SEARCH REPORT

International application No.

P GB94/ 01658

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

- claims 1-25
- claim 26

See Form PCT/ISA/206 (extra sheet)

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

LACK OF UNITY OF INVENTION

1. Claims: 1-25

2. Claims: 26

The search division considers that the present PCT patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.

Namely:

Claims 1-25 refer to a device for generating a head on a beverage in a sealed container, the sealed container incorporating the device and the method of operation of said device.

Claim 26 refers to an apparatus for canning beverages in sealed containers wherein capsules are maintained in an inert nitrogen atmosphere at superatmospheric pressure prior to being inserted into containers.

This is done to minimise the amount of oxygen present in the container after sealing and hence minimise oxidation of the beverage.

However, the apparatus of claim 26 is not limited to utilising the capsules of claim 1, but can be used with any capsule whose interior is in permanent communication with the external environment. Furthermore, the only technical feature disclosed in claim 26 is a means for maintaining an object in an inert nitrogen atmosphere at superatmospheric pressure, such a plant can have a multitude of applications.

Thus, the two inventions solve different problems without the use of any common special technical feature as required by Rule 13.1 PCT, i.e. no single general inventive concept.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/GB 94/01658

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US-A-3449134	10-06-69	NONE	